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EXAMINER

EINSMANN, MARGARET V

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| ART UNIT | PAPER NUMBER |
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1751

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,530

Applicant(s)

ANKNER ET AL.

Examiner

Margaret Einsmann

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/30/03

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Specification

The disclosure is objected to because of the following informalities:

The number of the prior application is incorrect on line 1 of page 1. The correct number is 09/978,987.

According to US practice, it is improper to refer to the claims in the application in the description. See page 1 line 10 and page 2 line 9. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The metes and bounds of claim 2 cannot be determined. Claim 7 is dependent on itself. Accordingly, it is too indefinite to be further examined on its merits.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 6 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for complex esters of 2-ethyl-1,3-hexanediol which have been esterified with a mixture of mono- and dibasic carboxylic acids, the molar ratio between the mono- and dibasic carboxylic acids in the mixture amounting to 50:50

Art Unit: 1751

to 99:1, does not reasonably provide enablement for a refrigerant oil comprising any complex ester of 2-ethyl-1,3-hexanediol . The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. See page 4 lines 22-23.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by JP 07-224000.

Lubricating oils comprising the diester 1,3-bis (2-methylhexanoyloxy) 2-ethylhexane are disclosed. An oral translation at the PTO disclosed that the preparation of that ester is found on page 6 left column where 2-ethyl-1,3- hexanediol is reacted with sulfuric acid and 2-methyl-hexanoic acid.

This rejection is maintained as applied in the parent cases. Applicant argued in the 09/402,669 application that the ester formed by the patent is not formed by reacting 2-ethyl-1,3-hexanediol with a mixture of monobasic and dibasic acids. Said limitation is not in claim 6.

Art Unit: 1751

Applicant may overcome the above two rejections by inserting the limitation of the ester formed in claim 1 into claim 6.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakahara et al., US 5,374,366.

Claims 14 and 25-28 in columns 15-18 teach all of the limitations of the complex ester claimed in applicant's claims 1-6. While patentee does not claim said esters as part of a composition comprising a fluorinated hydrocarbon refrigerant, patentee's purpose, as stated in col 1 lines 1-6 discloses that the present invention relates to a synthetic ester lubricating oil that has high miscibility with hydrogen-containing fluoroalkane refrigerants. Col 4 lines 11-23 list the acids as claimed in claim 4. Column 5 lines 20-40 disclose compositions comprising the specific refrigerants as claimed in claim 5. Accordingly, when the ester comprises 2-ethyl-1,3-hexanediol as claimed, the disclosed compositions anticipate applicant's claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagihara et al., EP 415,778.

Hagihara et al. disclose a refrigeration oil composition comprising a hydrogenated fluoroethane and an ester obtained from an aliphatic polyhydric alcohol having 1 to 6 primary hydroxyl groups, a saturated aliphatic monocarboxylic acid having 2 to 9 carbon atoms and a saturated dicarboxylic acid having 2 to 10 carbon atoms (abstract). Page 4 lines 27 et seq. lists the aliphatic polyhydric alcohols which are particularly preferred including 2-ethyl-1,3-hexanediol (reading on instant claim 1) and hindered alcohols. The lists of dibasic acids is on page 4 lines 48 et seq and includes most listed in instant claim 4. The monocarboxylic acids are listed on page 3.

Patentees specifically disclose using mixtures of esters formed from different polyols. See example 15 which discloses a mixture of two esters: 10% of the ester formed as product 9 mixed with 90% of the ester formed as product 1. (page 10 lines 38-40).

Referring to Table 1 on page 7, one notes that product 1 comprises neopentyl glycol as the polyol, which is esterified with a mixture of 1 mole of caproic acid and 0.5 moles of glutaric acid. Product 9 is formed from trimethylolpropane esterified with 1.8 moles of caproic acid and 0.6 moles of adipic acid. Thus patentees esterify using the mono acid and diacid as claimed by applicant. In example 15, two esters are mixed in the ratio of 10/90, reading on the limits of instant claim 4. While this reference discloses forming esters from polyols including 2-ethyl-1,3-hexanediol, and esterifies said polyols with mixtures of a monoacid and a diacid as claimed by applicants, and also discloses using mixtures of the esters together in refrigeration oil compositions with fluoroethanes, there is no working example of a composition comprising 2-ethyl-1,3-hexanediol. It would have been obvious to one having ordinary skill in the art that the mixtures claimed are

Art Unit: 1751

covered within the bounds of this reference because 2-ethyl-1,3-hexanediol as well as all of the mono- and diacids are taught as having utility in the compositions of the invention, all are used disclosed for use in mixtures of esters in combination with fluorocarbon refrigerants.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al., US 5,374,366.

Claims 14 and 25-28 in columns 15-18 teach all of the limitations of the complex ester claimed in applicant's claims 1-6 when the aliphatic polyhydric alcohol (D) is 2-ethyl-1,3-hexanediol as claimed. While applicant does not claim said ester as part of a composition comprising a fluorinated hydrocarbon refrigerant, patentee's purpose, as stated in col 1 lines 1-6 discloses that the present invention relates to a synthetic ester lubricating oil that has high miscibility with hydrogen-containing fluoroalkane refrigerants. Col 4 lines 11-23 list the acids as claimed in claim 4. Column 5 lines 20-40 disclose compositions comprising the specific refrigerants as claimed in claim 5. Accordingly, when the ester comprises 2-ethyl-1,3-hexanediol as claimed, the disclosed compositions are the claimed esters.

Nakahara differs from applicant's claims in not providing a working example of a composition comprising both a fluorocarbon refrigerant and a complex ester of 2-ethyl-1,3-hexanediol. It would have been obvious to a man having skill in the art at the time the invention was made to envision a refrigerant composition as claimed since Nakahara discloses esters comprising all of the components as claimed, that is, the

Art Unit: 1751


fluorinated hydrocarbons and the esters comprising the specific monocarboxylic acids and dicarboxylic acids combined with the specific 2-ethyl-1,2-hexanediol as claimed, which is taught as being equivalent to the polyols used in the working examples.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret Einsmann whose telephone number is 571-272-1314. The examiner can normally be reached on 7:00 AM -4:30 PM M-Th and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0994.

February 20, 2004


Margaret Einsmann
Primary Examiner
Art Unit 1751